

PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company	 STMicroelectronics International N.V
1.2 PCN No.	MDG/23/14078
1.3 Title of PCN	STM32H503RBT6 - product enhancement
1.4 Product Category	STM32H503RBT6
1.5 Issue date	2023-05-16

2. PCN Team

2.1 Contact supplier	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Ricardo Antonio DE SA EARP
2.2.2 Marketing Manager	Veronique BARLATIER
2.2.3 Quality Manager	Pascal NARCHE

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
General Product & Design	Die redesign : Mask or mask set change with new die design like metallization (specifically chip frontside) or bug fix	ST Crolles 300 (France)

4. Description of change

	Old	New
4.1 Description	STM32H503x - (Die474 – cut1.1 revision Z) product enhancement shows limitations as described in first release of the Errata Sheet (ES0561 - Rev 1 - March 2023)	STM32H503x - (Die474 - cut1.2 revision Y) product enhancement fixes those limitations as described in first release of the Errata Sheet (ES0561 - Rev 1 - March 2023)
4.2 Anticipated Impact on form, fit, function, quality, reliability or processability?	Functionality enhancement	

5. Reason / motivation for change

5.1 Motivation	Improvements was implemented to increase robustness, performances and quality of our products.
5.2 Customer Benefit	SERVICE IMPROVEMENT

6. Marking of parts / traceability of change

6.1 Description	Traceability ensured by ST internal tools. Die revision changes from "Z" to "Y" on Package Marking.
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7. Timing / schedule

7.1 Date of qualification results	2023-05-03
7.2 Intended start of delivery	2023-05-03
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	14078 RER2107 STM32H503 128K Die 474XXXX cut1.2.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2023-05-16

9. Attachments (additional documentations)

14078 Public product.pdf
14078 RER2107 STM32H503 128K Die 474XXXY cut1.2.pdf
14078 PCN14078_Additional information.pdf

10. Affected parts

10. 1 Current		10.2 New (if applicable)
10.1.1 Customer Part No	10.1.2 Supplier Part No	10.1.2 Supplier Part No
	STM32H503RBT6	

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**PRODUCT/PROCESS
CHANGE NOTIFICATION
PCN14078 – Additional information**

STM32H503RBT6- product enhancement

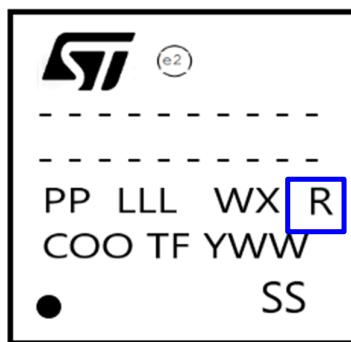
MDG – General Purpose Microcontrollers Division (GPM)

What are the changes?

Changes described in table below:

	Current condition	New condition
Front-End Diffusion site	ST Crolles 300 (France)	
STM32H503RBT6	Cut 1.1	Cut 1.2
Die revision Marking R	“Z”	“Y”

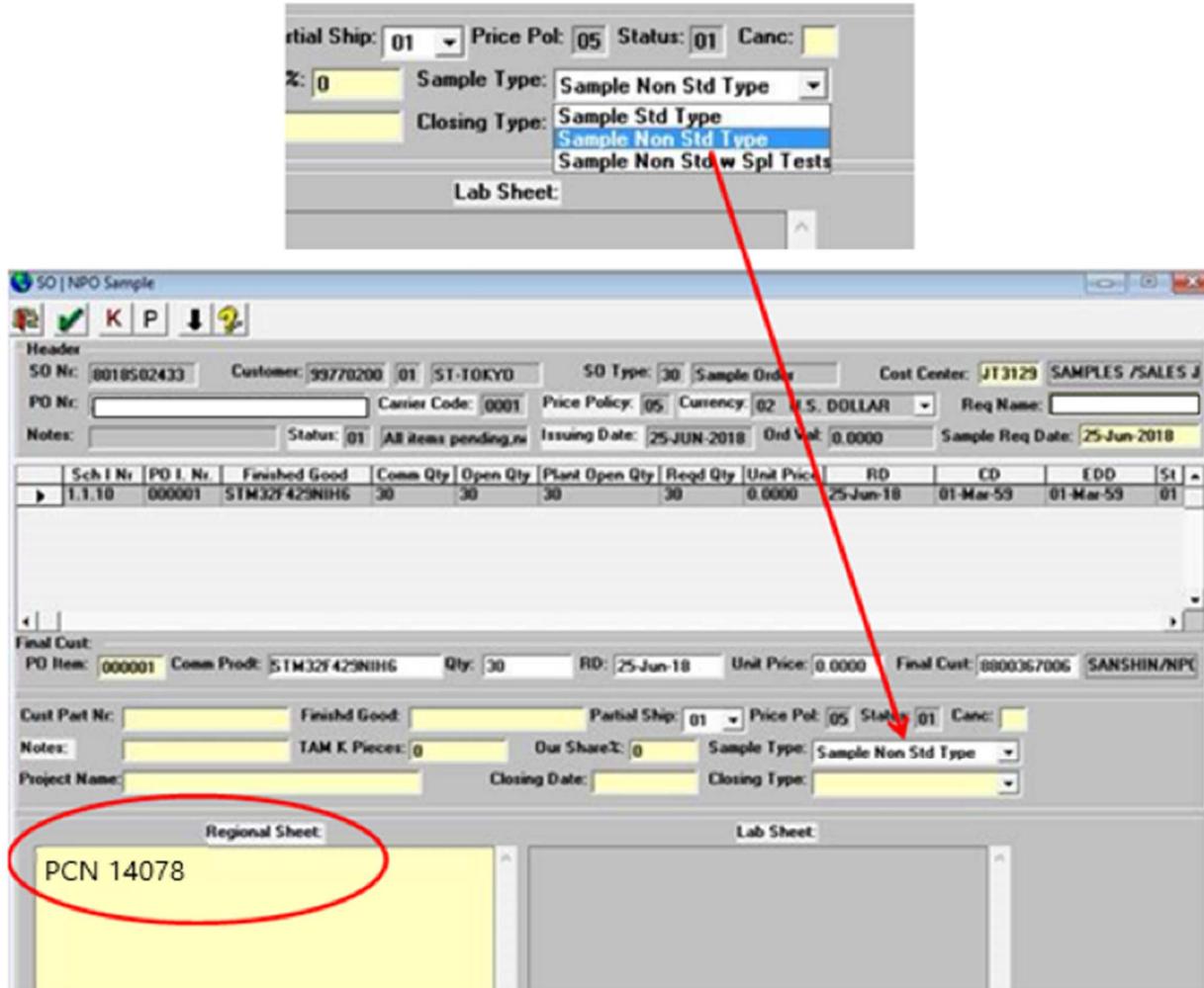
Example: Marking on package LQFP 100 14x14x1.4



How to order samples

For all samples request linked to this PCN, please:

- place a Non-standard sample order (choose Sample Non Std Type from pull down menu)
- insert the PCN number “**PCN14078**” into the NPO Electronic Sheet/Regional Sheet
- request sample(s) through Notice tool, indicating a single Commercial Product for each request



SO | NPO Sample

Header

SO Nr: 8018502433 Customer: 33770200 01 ST-TOKYO SO Type: 30 Sample Order Cost Center: JT3129 SAMPLES /SALES J

PO Nr: Carrier Code: 0001 Price Policy: 05 Currency: 02 U.S. DOLLAR Req Name:

Notes: Status: 01 All items pending.nw Issuing Date: 25-JUN-2018 Ord Val: 0.0000 Sample Req Date: 25-Jun-2018

Sch I Nr	PO I. Nr.	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	CD	EDD	St
1.1.10	000001	STM32F429NIH6	30	30	30	30	0.0000	25-Jun-18	01-Mar-53	01-Mar-53	01

Final Cust:

PO Item: 000001 Comm Prod: STM32F429NIH6 Qty: 30 RD: 25-Jun-18 Unit Price: 0.0000 Final Cust: 8800367006 SANSHIN/NPC

Cust Part Nr: Finished Good: Partial Ship: 01 Price Pol: 05 Status: 01 Canc:

Notes: TAM K Pieces: 0 Our Share: 0 Sample Type: Sample Non Std Type

Project Name: Closing Date: Closing Type:

Regional Sheet: PCN 14078 Lab Sheet:



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PCN Title : STM32H503RBT6 - product enhancement

PCN Reference : MDG/23/14078

Subject : Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

STM32H503RBT6		
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PCN14078 RERMCD2107 Die 474XXXX Cut 1.2 eSTM40 Crolles300 Reliability Evaluation Report

May 4th, 2023

MDG GPM Quality & Reliability Department

RERMCD2107 – Die 474XXX Y Cut 1.2 eSTM40 Croles300

Trial	Test1	Method	Conditions	package	474			
					474XXXA (Cut 1.0)	474XXXA (Cut 1.0)	474XXXZ (Cut 1.1)	474XXX Y (Cut 1.2)
Die	HTOL	MIL-STD-883 Method 1005 JESD22A108	T _j 130°C 3.6V Duration = 1200h	LQFP64 10x10 pitch 0.5	0/77 Duration 1200h	0/77 Duration 1200h	0/77 Duration 1200h	0/77 Duration 168h
	EDR	JESD22-A117 JESD22-A103	10kcy EW @ 125°C then Storage HTB 150°C – Duration 1500h	LQFP64 10x10 pitch 0.5	0/77 10kc + 1500h	0/77 10kc + 1500h	0/77 10kc + 500h	0/77 10kc
	EDR	JESD22-A117 JESD22-A103	10kcy EW @ 25°C then Storage HTB 150°C – Duration 168h	LQFP64 10x10 pitch 0.5	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc
	EDR	JESD22-A117 JESD22-A103	10kcy EW @ -40°C then Storage HTB 150°C – Duration 168h	LQFP64 10x10 pitch 0.5	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc + 168h	0/77 10kc
	ELFR	MIL-STD-883 Method 1005 JESD22A108	T _j 130°C 3.6V Duration = 48h	LQFP64 10x10 pitch 0.5	0/500	0/500	0/500	
	LU	0018695 JESD78	T _j 130°C (Class II)	LQFP64 10x10 pitch 0.5	0/3	0/3	0/3	0/3
	ESD HBM	ANSI/JEDEC JS-001	T _a 25°C 2KV (Class 2)	LQFP64 10x10 pitch 0.5	0/3	0/3	0/3	0/3
	ESD CDM	ANSI/ESDA/ JEDEC JS-002	T _a 25°C 500V (Class C2a)	LQFP64 10x10 pitch 0.5	0/3	0/3	0/3	0/3

RERMCD2107 – Packages 474

LQFP & UQFN @ JSCC, WLCSP @ ASE

Trial	Test1	Method	Conditions	474						
				LQFP64 10x10 p0.5 Lot 1 JSCC	LQFP64 10x10 p0.5 Lot 2 JSCC	LQFP64 10x10 p0.5 Lot 3 JSCC	LQFP48 7x7 p0.5 Lot 1 JSCC	UQFN48 7x7 p0.5 Lot 1 JSCC	UQFN32 5x5 p0.5 Lot 1 JSCC	WLCSP25 p0.4 Lot 1 ASEKH
Die	PC	JSTD 020 JESD 22-A113 7191395	24h bake@125°C, MSL3 (192h/30°C/60%RH) 3x Reflow simulation Peak Reflow Temp= 260°C	0/308 MSL3	0/308 MSL3	0/308 MSL3		0/308 MSL3		0/308 MSL1
	TC After PC	JESD22-A104	Ta= -65/150°C Cyc= 500	0/77	0/77	0/77		0/77		0/77
	UHAST After PC	JESD22-A118	Ta=130°C ,85% RH, 2 Atm Duration= 96hrs	0/77	0/77	0/77		0/77		0/77
	HTSL After PC	JESD22-A103	Ta= 150°C Duration=500hrs	0/77	0/77	0/77		0/77		0/77
	THB After PC	JESD22-A101	Ta=85°C/85%RH VDD=3v6 Duration= 500hrs	0/77	0/77	0/77		0/77		0/77
	CA	Construction Analysis	ST internal specifications	0/50				0/50		0/50
	ESD CDM	ANSI/ESDA/ JEDEC JS-002	Ta 25°C 500V (Class C2a)	0/3	0/3	0/3	0/3	0/3	0/3	0/3

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